

CLAIMS:

1. A door module for moving a window glass, the door module comprising:

5 a window motor;

a power transmission arm, which is operably coupled to the window motor, wherein the power transmission arm is rotated about a predetermined rotation axis by the window motor, and wherein the power transmission arm has a power

10 transmission portion located apart from the rotation axis;

a guide member, which extends along a moving direction of the window glass, wherein the moving direction of the window glass is a direction along which the window glass moves; and

15 a carrier, which is supported by the guide member so as to be movable along the moving direction of the window glass, wherein the window glass is installed onto the carrier, wherein the carrier, together with the window glass, is moved on the guide member along the moving direction of the window glass, and wherein the carrier has a first engaging portion engaged with the power transmission portion so that the carrier is moved along the moving direction of the window glass in accordance with the rotation of the power transmission arm, and has a second engaging portion engaged with the guide member so as to restrain the carrier from 20 moving relative to the guide member along a direction that intersects the moving direction of the window glass.

2. The door module according to claim 1, wherein the second engaging portion restrains the carrier from moving relative to 30 the guide member along a direction orthogonal to the moving direction of the window glass and parallel to a plane orthogonal to the thickness direction of the window glass.

3. The door module according to claim 1, wherein the second 35 engaging portion restrains the carrier from moving relative to

the guide member along the thickness direction of the window glass.

4. The door module according to claim 1, wherein the guide member has a pair of guide surfaces facing each other, wherein the surfaces are arranged along a direction orthogonal to the moving direction of the window glass, wherein the second engaging portion is one of a plurality of second engaging portions, wherein each of the second engaging portions is placed at a predetermined interval between itself and other one of the second engaging portions along the moving direction of the window glass, and wherein, when the carrier is moved along the moving direction of the window glass, each of the second engaging portion is slid on both guide surfaces.

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5. The door module according to claim 1, wherein the first engaging portion overlaps a portion of the carrier provided with the second engaging portion in the moving direction of the window glass.

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6. The door module according to claim 1, further comprising a module panel for rotatably supporting the power transmission arm, wherein the guide member is integrally formed with the module panel.

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7. The door module according to claim 1, wherein the first engaging portion is engaged with the power transmission arm so that the size of an interval between the carrier and the power transmission arm in the thickness direction of the window glass is permitted to vary.

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8. The door module according to claim 7, wherein the guide member has a crook surface, and wherein the carrier is moved on the crook surface of the guide member along the moving direction of the window glass, thereby the size of said

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interval between the carrier and the power transmission arm is varied.

9. The door module according to claim 1, wherein the first 5 engaging portion is engaged with the power transmission arm so that an angle that the carrier forms with the power transmission arm is permitted to vary.

10. The door module according to claim 9, wherein the guide 10 member has a crook surface, and wherein the carrier is moved on the crook surface of the guide member along the moving direction of the window glass, thereby the angle that the carrier forms with the power transmission arm is varied.

15 11. The door module according to claim 9, wherein one of the power transmission arm and the first engaging portion has a curve abutting against other one of the power transmission arm and the first engaging portion, and wherein the curve allows the angle that the carrier forms with the power transmission 20 arm to vary.

12. The door module according to claim 1, wherein the power transmission arm is an engaging projection and the first engaging portion is a receiving rail having a longitudinal 25 axis, wherein the receiving rail receives the engaging projection and guides the engaging projection along the longitudinal axis of the receiving rail, and wherein the longitudinal axis of the receiving rail traverses a portion of the carrier provided with the second engaging portion.

30 13. The door module according to claim 1, wherein the module panel is made of synthetic resin.

14. The door module according to claim 6, wherein the module 35 panel and the guide member are made of synthetic resin.